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quately the fact that Leibniz's thought upon certain problems underwent development, and that at certain points he remained to the end hesitant or self-contradictory. In particular, there is no sufficient representation of Leibniz's more or less wavering utterances in regard to the logical status and the demonstrative scope of the Principles of Contradiction and of Sufficient Reason. With these exceptions, however, the compilation is excellently done, and affords, in a convenient and inexpensive form, a well-ordered and detailed exposition of Leibniz's principal doctrines by Leibniz himself. Good use is made of selections from the correspondence, especially for the elucidation and amplification of the doctrine of monads, too briefly set forth in the several short formal treatises which Leibniz devoted to the subject. One of the once-disputed letters of Leibniz, — an extremely interesting one on the Principle of Continuity, — cited by Koenig in his famous controversy with Maupertuis, is here printed (both in the original French and in translation), for the first time in any edition of Leibniz's writings. Competent and instructive introductions, of an historical and expository sort, are provided by Dr. Cassirer for each of the sections into which the collection is divided.

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Life and Matter: A Criticism of Professor Haeckel's "Riddle of the Universe." By Sir OLIVER LODGE. New York and London, G. P. Putnam's Sons, 1905. — pp. ix, 175.

We have here another criticism of Haeckel's *Weltraethsel*, this time from the camp of the scientists. The author seeks to counteract the harm done among unbalanced and uncultured persons by the spread of Haeckel's writings, and offers his book as an antidote against the speculative and destructive portions of the German biologist's work. He meets the world-riddle man on scientific ground, and shows "that he has underestimated some classes of fact and has stretched scientific theory into regions of guess work and hypothesis where it loses touch with real science altogether." "At present," he says, "the scheme formulated by Professor Haeckel must to philosophers appear rudimentary and antiquated, while to men of science it appears gratuitous, hypothetical, in some places erroneous, and altogether unconvincing."

The law of substance, establishing the eternal persistence of matter and force, upon which Haeckel bases his entire system and which he regards as axiomatic, is far from being self-evident, according to Professor Lodge. It may hereafter be possible to discover new forms of energy, in which case the definition may have to be modified. "But after all, this is not specially important: the *serious* mistake which people are apt to make concerning this law of energy is to imagine that it denies the possibility of guidance, control, or directing agency, whereas really it has nothing to say on these topics; it relates to *amount* alone. Philosophers have been far too apt to jump at the conclusion that because energy is constant, therefore no guidance is possible, so that all psychological or other interference is precluded. Physicists however know better." Moreover, it is untrue that the modern physicist has grown so accustomed to the conservation of matter that he is unable to conceive the contrary. "In other words, the destruction and the creation of matter are well within the range of scientific conception, and may be within the realm of experimental possibility."

But there seems some reason to suppose that anything which actually *exists* must be, in some way or other, perpetual. This is what Haeckel was evidently groping after. Perhaps the atom may break up into electric charges and these may be resolved into pristine ether. But we cannot conclude therefore that nothing else exists. Perhaps life also is a constant. "When it disappears from a material environment, is it knocked out of existence?" "Is it a temporary trivial collocation associated with certain complex groupings of atoms of matter, . . . or is it something immaterial and itself fundamental, something which uses these collocations of matter in order to display itself amid material surroundings, but is otherwise essentially independent of them?" Haeckel's view is that life has arisen from inorganic matter without antecedent life. The experimental facts of biogenesis he discards in favor of a hypothetical and at present undiscovered kind of spontaneous generation. He also assumes easily and gratuitously that there is a material substance at the root of all mental processes whatever. That is, in order to explain life and mind and consciousness by means of matter, he simply assumes that matter possesses these unexplained attributes. "Instead of associating life, will, and consciousness with the organisms in which they are actually in experience found, these ideas are foisted into the atoms of matter; and then the properties which have been conferred on the atoms are denied in all essential reality to the fully developed organisms which those atoms help to compose."

According to Professor Lodge, life is a guiding and controlling entity which reacts upon our world according to laws so partially known that we have to say they are practically unknown, and therefore appear in some respects mysterious. It is neither matter nor energy, nor even a function of matter or energy, but is something belonging to a different category; by some means, at present unknown, it is able to interact with the material world for a time, but it can also exist in some sense independently; although in that condition of existence it is by no means apprehensible by our senses. An acorn has in itself the potentiality not of one oak tree alone, but of a forest of oak trees. There is no sort of law of 'conservation' here. It is not as if something were passed on from one thing to another. It is not analogous to energy at all; it is analogous to the magnetism which can be excited by any given magnet; the required energy, in both cases, being extraneously supplied, and only transmuted into the appropriate form by the guiding principle which controls the operation. So too the mind can direct and guide. "My contention then is, —and in this contention I am practically speaking for my brother physicists, — that whereas life or mind can neither generate energy nor directly exert force, yet it can cause matter to exert force on matter, and so can exercise guidance and control: it can so prepare any scene of activity, by arranging the position of existing material, and timing the liberation of existing energy, as to produce results concordant with an 'idea or scheme or intention': it can, in short, 'aim' and 'fire.'"

Professor Lodge's book is another evidence of the fact that the mechanical theory of the universe is not satisfactory to all scientists, and that interaction and vitalism are being looked upon with greater favor than during the immediate past. The views set forth are not very popular with present-day philosophers, but that is perhaps because these thinkers are mortally afraid of being called unscientific. When the physicists concede the possibility of such a relation between matter and a guiding principle as is spoken of by Professor Lodge, the strictly mechanical theory of the universe will disappear from philosophy. At present, however, it is doubtful whether the great mass of his 'brother scientists' will accept him as their spokesman.

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The Concept Action in History and in the Natural Sciences. By PERCY HUGHES. New York, The Macmillan Co., 1905. — pp. 108.

Dr. Hughes's aim in this essay is to set forth the antithesis between historical science and natural science. The work evidently has been in part suggested by Rickert's *Die Grenzen der naturwissenschaftlichen Begriffsbildung;* but, while Rickert holds that history is the science of the individual and natural science the science of the universal, Dr. Hughes maintains that the antithesis is more fully and richly set forth by the contrast of *action* as the field of history and *law* as the field of natural science. "Action in antithesis to law distinguishes the field and purpose of history" (p. 23), and "action is internal determination" or "inner causation." Historical action is teleological (p. 44) and it resides in individual wholes as potentiality or tendency. Its source in an inner tendency of the individual distinguishes historical movement from the mechanical movement with which natural science is concerned. In history we always seek and find the explanation of movement in tendencies resident in an individual (a person, a nation, a phase of culture, etc.), whereas in natural science we go beyond the individual thing and find the explanation of its movements in the general circumstances and finally in the whole state of the world. Hence the naturalist strives to reduce things to passivity. Dr. Hughes gives several very pertinent illustrations of his meaning.

In Chapter IV., entitled "Action in Mechanics," he criticises in an interesting manner the inconsistencies involved in the retention of 'action' as a concept of mechanical science, in view of the elimination of 'efficiency' from